

The University of Hong Kong – Faculty of Engineering Course List 2021/22

Important Notes:

1. Please note that the available course list is for reference only. The approval of courses is at the discretion of respective faculty. Actual enrolment is subject to the availability of courses, quota and class schedule.

[The information could be changed without prior notice.]

2. Some courses may have special enrollment requirements (e.g. prerequisite). Please contact enggex@hku.hk if additional course information is required.

Course Level	Course Code	Course Title	Credits
UG	BMED1207	Fundamentals of chemistry and biology for biomedical engineering	6
UG	BMED2206	Engineering in biology and medicine	6
UG	BMED2301	Life sciences I (Biochemistry)	6
UG	BMED2302	Life sciences II (Cell Biology & Physiology)	6
UG	BMED2500	Biomedical signals and linear systems	6
UG	BMED2600	Biomechanics for biomedical engineering	6
UG	BMED2810	Engineering management and society	6
UG	BMED3301	Life sciences III (Physiology)	6
UG	BMED3500	Electromagnetics in biomedicine	6
UG	BMED3501	Medical imaging	6
UG	BMED3600	Biomaterials science and engineering	6
UG	BMED3603	Statistics and mathematical analysis for medical engineering	6
UG	BMED4500	Biomedical instrumentation and systems	6
UG	BMED4501	Biophotonics	6
UG	BMED4503	Biomedical Ultrasonics: Principles and Applications	6
UG	BMED4505	Advanced bioelectronics	6
UG	BMED4601	Biomaterials design and applications	6
UG	BMED4602	Molecular and cellular biomechanics	6
UG	BMED4603	Transport phenomena in biological systems	6
UG	BMED4604	Cell and tissue engineering	6
UG	CIVL1105	Environmental engineering	6
UG	CIVL1113	Engineering mechanics & materials	6

Course Level	Course Code	Course Title	Credits
UG	CIVL1115	Civil engineering informatics	6
UG	CIVL2102	Engineering geology and rock mechanics	6
UG	CIVL2103	Fluid mechanics	6
UG	CIVL2104	Hydraulics and hydrology	6
UG	CIVL2106	Soil mechanics	6
UG	CIVL2108	Principles of civil engineering management	6
UG	CIVL2111	Transportation engineering	6
UG	CIVL2112	Structural analysis	6
UG	CIVL2113	Structural design	6
UG	CIVL3103	Construction project management	6
UG	CIVL3107	Environmental impact assessment of civil engineering projects	6
UG	CIVL3108	Foundation engineering	6
UG	CIVL3112	Prestressed concrete structures	6
UG	CIVL3114	Slope engineering	6
UG	CIVL3115	Solid and hazardous waste management	6
UG	CIVL3116	Steel structures	6
UG	CIVL3119	Traffic engineering	6
UG	CIVL3120	Transportation infrastructure engineering	6
UG	CIVL3121	Water resources engineering	6
UG	CIVL3122	Wind engineering	6
UG	CIVL3127	Professional practice in the built environment	6
UG	CIVL3128	Structural dynamics and earthquake engineering	6
UG	CIVL3131	Earth retaining system	6
UG	CIVL3132	Geotechnical testing instrumentation and monitoring	6
UG	CIVL3133	Ground improvement	6
UG	CIVL3134	Environmental geotechnology	6
UG	COMP2119	Introduction to Data Structures and Algorithms	6
UG	COMP2120	Computer Organization	6
UG	COMP2121	Discrete Mathematics	6
UG	COMP2396	Object-oriented Programming and Java	6
UG	COMP3230	Principles of Operating Systems	6
UG	COMP3231	Computer Architecture	6
UG	COMP3234	Computer and Communication Networks	6

Course Level	Course Code	Course Title	Credits
UG	COMP3258	Functional Programming	6
UG	COMP3259	Principles of Programming Languages	6
UG	COMP3271	Computer Graphics	6
UG	COMP3278	Intro. to Database Management Systems	6
UG	COMP3297	Introduction to Software Engineering	6
UG	COMP3314	Machine Learning	6
UG	COMP3316	Quantum Information and Computation	6
UG	COMP3317	Computer Vision	6
UG	COMP3320	Electronic Commerce Technology	6
UG	COMP3322	Modern Technologies on World Wide Web	6
UG	COMP3329	Computer Game Design and Programming	6
UG	COMP3353	Bioinformatics	6
UG	COMP3355	Cyber Security	6
UG	COMP3356	Robotics	6
UG	COMP3357	Cryptography	6
UG	COMP3358	Distributed and Parallel Computing	6
UG	COMP3359	Artificial Intelligence Applications	6
UG	COMP3403	Implementation, Testing and Maintenance of Software Systems	6
UG	ELEC2147	Electrical energy technology	6
UG	ELEC2243	Introduction to electricity and magnetism	6
UG	ELEC2245	Control systems I	6
UG	ELEC2346	Electric circuit theory	6
UG	ELEC2347	Fundamentals of optics	6
UG	ELEC2441	Computer organization and microprocessors	6
UG	ELEC2543	Object-Oriented programming and data structures	6
UG	ELEC2544	Introduction to electronic commerce and financial technology	6
UG	ELEC2843	Multivariable calculus and elementary partial differential equations	6
UG	ELEC2844	Probabilistic systems analysis	6
UG	ELEC3141	Power transmission and distribution	6
UG	ELEC3142	Electrical energy conversion	6
UG	ELEC3143	Power electronics	6
UG	ELEC3241	Signals and linear systems	6
UG	ELEC3243	Fundamentals of next-generation communications	6

Course Level	Course Code	Course Title	Credits
UG	ELEC3249	Pattern recognition and machine intelligence	6
UG	ELEC3255	Control systems II	6
UG	ELEC3342	Digital system design	6
UG	ELEC3347	Electronic materials and quantum physics	6
UG	ELEC3349	Optical devices	6
UG	ELEC3350	Electronic circuits and devices I	6
UG	ELEC3351	Electronic circuits and devices II	6
UG	ELEC3441	Computer architecture	6
UG	ELEC3442	Embedded systems	6
UG	ELEC3443	Computer networks	6
UG	ELEC3543	Advanced systems programming	6
UG	ELEC3644	Advanced Mobile Apps Development	6
UG	ELEC3844	Engineering management and society	6
UG	ELEC3845	Economics, finance and marketing for engineers	6
UG	ELEC3846	Numerical methods and optimization	6
UG	ELEC4141	Electric railway systems	6
UG	ELEC4142	Power system protection and switchgear	6
UG	ELEC4144	Electric vehicle technology	6
UG	ELEC4145	Building services - electrical services	6
UG	ELEC4146	Building services - electrical installations	6
UG	ELEC4147	Power system analysis and control	6
UG	ELEC4148	Smart grid and renewable energy systems	6
UG	ELEC4149	Basic Lighting Engineering	6
UG	ELEC4245	Digital image processing	6
UG	ELEC4248	Photonic systems technologies	6
UG	ELEC4251	Microscopy	6
UG	ELEC4544	Artificial intelligence and deep learning	6
UG	ELEC4546	Investment and trading for engineering students	6
UG	ELEC4642	VLSI design principles	6
UG	IMSE2102	Fundamentals of supply chain management	6
UG	IMSE2109	Fundamentals of engineering design	6
UG	IMSE2112	Engineering technology	6
UG	IMSE2113	Information Systems	6

Course Level	Course Code	Course Title	Credits
UG	IMSE2134	Operational research	6
UG	IMSE3102	Strategic supply chain management	6
UG	IMSE3106	Manufacturing technology	6
UG	IMSE3107	Systems modelling and simulation	6
UG	IMSE3109	Quality management	6
UG	IMSE3111	Intelligent optimisation	6
UG	IMSE3115	Engineering economics and finance	6
UG	IMSE3126	Engineers in society	6
UG	IMSE3128	Human factors engineering	6
UG	IMSE3136	Operations planning and control	6
UG	IMSE4102	Engineering project management	6
UG	IMSE4119	Digital enterprises and e-commerce	6
UG	IMSE4122	Global Logistics Systems	6
UG	MECH2404	Drawing and elements of design and manufacture	6
UG	MECH2406	Fundamentals of electrical engineering	6
UG	MECH2407	Multivariable calculus and partial differential equations	6
UG	MECH2413	Engineering mechanics	6
UG	MECH2414	Thermofluids	6
UG	MECH2419	Properties of materials	6
UG	MECH3402	Engineering thermodynamics	6
UG	MECH3406	Electrical and electronic engineering	6
UG	MECH3407	Advanced partial differential equation and complex variables	6
UG	MECH3408	Mechanics of fluids	6
UG	MECH3409	Mechanics of solids	6
UG	MECH3416	Fundamentals of aeronautical engineering	6
UG	MECH3418	Dynamics and control	6
UG	MECH3420	Air pollution control	6
UG	MECH3427	Design and manufacture	6
UG	MECH3429	Air conditioning and refrigeration	6
UG	MECH3430	Fire protection in building	6
UG	MECH3431	Utility services in buildings	6
UG	MECH4404	Automatic control	6
UG	MECH4407	CAD/CAM	6

Course Level	Course Code	Course Title	Credits
UG	MECH4409	Energy conversion systems	6
UG	MECH4410	Engineering & technology management	6
UG	MECH4411	Heat transfer	6
UG	MECH4412	Product design and development	6
UG	MECH4414	Materials of engineering applications	6
UG	MECH4415	Applied stress and strength analysis	6
UG	MECH4421	Viscous flow	6